ECONOMIC INDEPENDENCE
FOR THE BLINDED

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Sea Power V.6 No.1 January 1919

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Economic Independence for the Blinded

The employment of the civilian and war blind in the electrical industry, and the extension of their usefulness in new channels

By Dr. Schuyler Skaats Wheeler

Dr. Wheeler is a former president of the American Institute of Electrical Engineers and is president of the Crocker-Wheeler Company, electrical machinery manufacturers, of Ampere, N. J. He originated this new work for the blind, which has been taken up abroad as well as in this country.—Editor.

WITH THE ABRUPT ending of the world war, we are faced with the necessity of providing employment and proper care for the blinded soldiers as soon as possible. In France and England this work has been under way for several years; this is due to the fact that this problem arose several years sooner in those countries than it did here, owing to our late entry into the war.

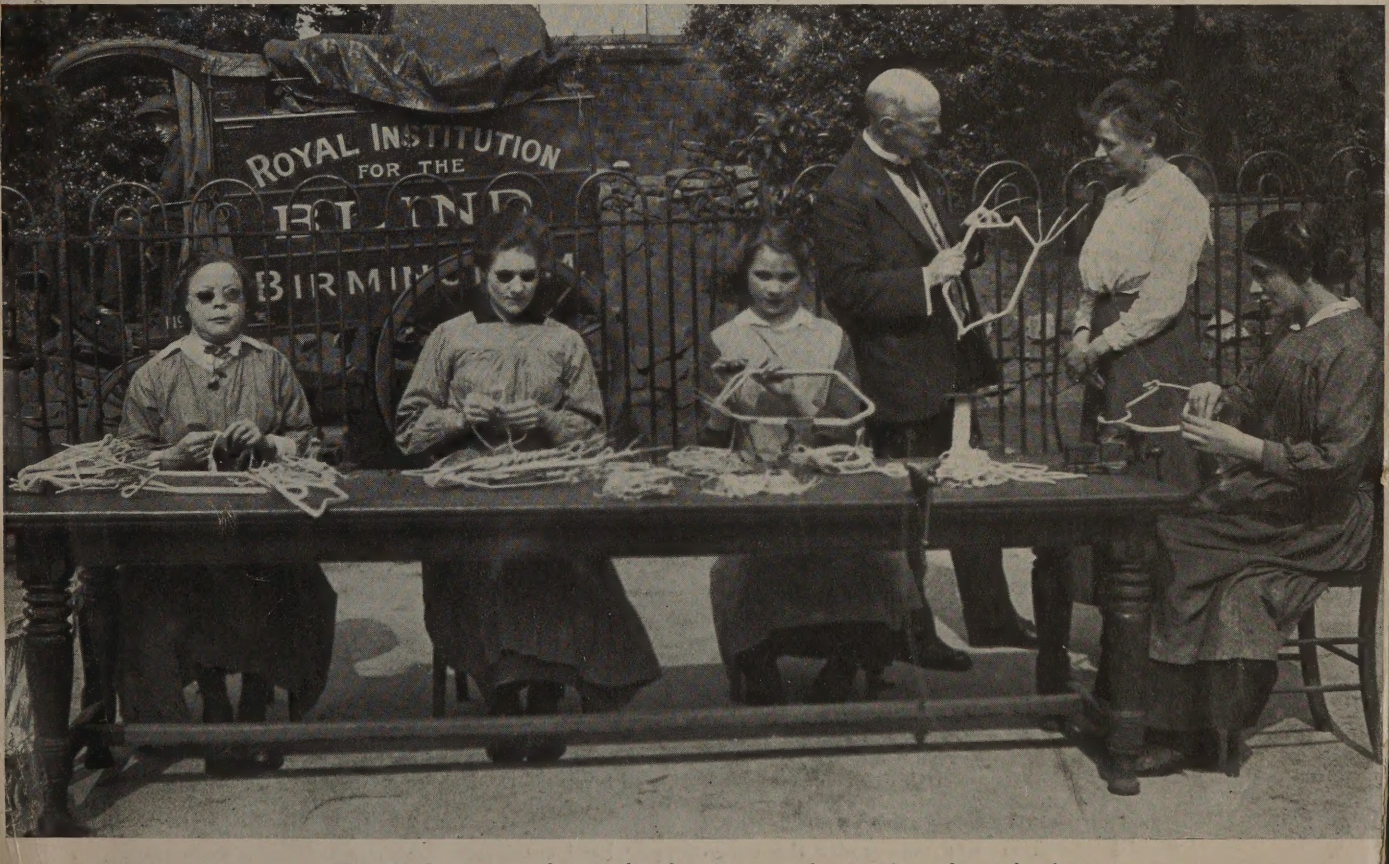
Now, however, the time is not far distant when our blinded soldiers and sailors will be brought back and we must be ready to receive them and make them able to earn their livings and carry on their lives without feeling that they are recipients of charity. For the blind are even less inclined to accept charity than the sighted and the experience of France and England shows that they consider a chance to earn their livings the greatest kindness that can come their way.

In view of these facts, it is well to know what has been done in this country to make the blind independent and able to compete in the economic world without fear or favor.

With this intention, I founded the Double Duty Finger Guild more than a year ago. The Guild is located within a few blocks of the Crocker-Wheeler factory in Ampere, New Jersey, thus making it possible to use the blind in the work rooms of the factory as soon as they are proficient. The idea of teaching the blind to do electrical manufacturing originated with my wife, who suggested that there were many processes in the industry in which touch was all important.

We had spent some time considering various avenues of employment for the blind and started them in the electrical work only as an experiment. Success, however, led to our making these blind men and women an integral part of our force. Now several score of them are earning their livings in our plant in active competition with the sighted workers.

It is necessary to know a little about some of the processes of electrical manufacturing to understand how the blind can be used. To begin with, what are known as "coils" play a large part in the construction of motors and dynamos. These coils are pieces of copper wire of irregular shape which must be wound with tape to insulate them. There are millions of coils made each year and they are used to build up the armatures, the most important part of both motors and dynamos. It is very necessary that the insulating tape be smoothly wrapped about the coil and it is in this work that the touch is most used—eyes are a help, of course, but the fingers can do the



The blind are even less inclined to accept charity than the sighted.

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"Sinking of U. S. S. Jacob Jones"

(Extracts from report of the commanding officer, Lieutenant Commander David W. Bagley)

At 4.21 P. M., on December 6, 1917, the U.S.S. Jacob Jones was struck on the starboard side by a torpedo from an enemy submarine.

I was in the chart house and heard some one call out "Torpedo!" I jumped at once to the bridge, and on the way up saw the torpedo about 800 yards from the ship approaching from about one point abaft the starboard beam headed for a point about midships, making a perfectly straight surface run, at an estimated speed of at least 40 knots. No periscope was sighted.

Lieutenant (Junior Grade) S. F. Kalk was officer of the deck at the time, and I considered that he took correct and especially prompt measures in maneuvering to avoid the torpedo. Lieutenant Kalk was a very able officer, calm and collected in emergency. I deeply regret to state that he was lost as a result of the torpedoing of the ship, dying of exposure on one of the rafts.

The torpedo broached and jumped clear of the water at a short distance from the ship, submerged about 50 or 60 feet from the ship and struck approximately 3 feet below the water line in the fuel-oil tank between the auxiliary room and the after crew space. The ship settled aft immediately after being torpedoed.

The deck over the forward part of the after crew space and over the fuel-oil tank just forward of it was blown clear for a space athwartships of about 20 feet from starboard to port, and the auxilary room wrecked.

As soon as the torpedo struck I attempted to send out an "S.O.S." message by radio, but the mainmast was carried away, antennae falling, and all electric power had failed. There was no other vessel in sight, and it was therefore impossible to get through a distress signal of any kind.

Immediately after the ship was torpedoed every effort was made to get rafts and boats launched.

The ship sank about 4.29 P. M. (about eight minutes after being torpedoed). As I saw her settling rapidly, I ran along the deck and ordered everybody I saw to jump overboard. At this time most of those not killed by the explosion had got clear of the ship and were on rafts or wreckage.

Before the ship sank two shots were fired from No. 4 gun with the hope of attracting attention of some near-by ship.

Immediate efforts were made to get all survivors on the rafts and then get rafts and boats together.

About 15 or 20 minutes after the ship sank the submarine appeared on the surface about 2 or 3 miles to the westward of the rafts and gradually approached until about 800 to 1,000 yards from the ship, where it stopped and was seen to pick up one unidentified man from the water. The submarine then submerged and was not seen again.

I was picked up by the motor dory and at once began to make arrangements to try to reach the Scillys in that boat in order to get assistance to those on the rafts.

After a very trying trip during which it was necessary to steer by stars and by the direction of the wind, the dory was picked up by about 1 P. M., December 7, by a small patrol vessel about six miles south of St. Marys.

I deeply regret to state that out of 7 officers and 103 men on board at the time of the torpedoing, 2 officers and 64 men died in the performance of duty.

The behavior of officers and men under the exceptionally hard conditions is worthy of the highest praise.

work efficiently and well, provided that they are educated fingers, like those of the blind.

The work of training the blind in electrical manufacturing started in Ampere a year ago with four or five blind persons from the New Jersey State Commission for the Blind. A competent instructor was employed—a professional coil winder from the main shop of the Crocker-Wheeler Company — and she soon had them all at work. She experienced no difficulty in getting them to grasp the idea of what was wanted, although she had never handled the sightless before. At the end of two or three weeks, these blind people were doing their work as well as the sighted winders in the main shop and it was realized that the experiment was a success.

Immediately arrangements were made to enlarge the blind work and it was made known that other blind could be given employment. It was but a short time before there were between fifty and sixty sightless men and women doing their eight and a half hours work each day at the Double Duty Finger Guild. This was very encouraging, since it demonstrated that the blind could compete in the active market with sighted workers. It proved that for certain classes of work their product would stand comparison with that of the more fortunate winders that were not deprived of sight.

Doing their eight and a half hours work each day at the Double Duty Finger Guild.

After less than a month the average blind person employed in the Guild was able to earn a living. There was a certain amount of judgment necessary to determine how these blind should be paid. Manifestly they could not be placed on the same footing as the sighted—in the beginning, at least. It was arranged that they should receive a flat payment per day while learning; this was sufficient to pay their carfare and buy their lunches. As soon as they became proficient—that is, as soon as they were able to turn out a certain number of coils a day—they were paid by the piece. This arrangement works very well. The blind like it, since it makes their work a game at which each one tries to turn out the most coils per hour or day and it is satisfactory from the factory end since the workers are paid for value received. It is also good because it gives them an incentive to work, since they feel that every extra coil wound means more money in the pay envelope at the end of the week. The piece work payment system also makes them speed up and the quality of their work does not deteriorate because inferior coils cannot pass the inspector and are not paid for.

Several months after it had been demonstrated that the blind could be used to advantage in the electrical industry, news of this new employment was sent abroad and the French and British Government requested that the Double Duty Finger Guild system of training be brought to Europe and taught to their war blind. I was asked to go over and I spent several months abroad from March until the middle of June of 1918, in teaching the war blind how to do this

After less than a month's training the average blind person employed at the Guild is able to earn a living.

The blind workers can wind all of the thirty-odd types of coils used in the Crocker-Wheeler factory.

In spite of the fact that the last great German offensive was then at its worst, and Paris was bombarded daily by the long range guns and raided by the Gothas every night, the French Thomson-Houston Company, the largest electrical manufacturers in France, took up the work and to-day have a number of blind French soldiers winding coils in their great plant at Neuilly-sur-Marne. The director in charge of this work writes that they are very good workmen and that their number is being added to as fast as possible.

With the splendid coöperation of Sir Arthur Pearson and Mr. Hugo Hirst, president of the British General Electric Company, the work of training the British blind in coil winding was taken up. The work was started in Birmingham and Manchester, where a number of the great electrical factories are situated, and it has gone on ever since. The British Electrical and Allied Manufacturers' Association, the controlling body in the electrical industry in Great Britain, has taken up the work and is pushing it. This means that every blind person in the British Isles who is industrially competent will be given a chance at the work. It means that in the course of time there will be hundreds, perhaps thousands, who will be able to earn their livings and it must be remembered that without this these people would have to depend on charity.

It is true that the blind in France. England and this country have had occupation, but it has never been of such a character that they were immune from charity. Hitherto they have made baskets, mats, rugs, and so on, and their product was always sold on the plea that the buyer should help the blind by taking it. In the electrical industry the blind do work for which there is an unlimited demand and they compete successfully with those sighted persons who have earned their livelihood at the same kind of work for years. In other words, the blind have found a place in the economic scheme where they are needed, not where they have to be forced into usefulness.

After seeing that the English and French blind were making progress in the right direction and that it had been properly demonstrated that they could do this work, I returned to this country and took up the work of extending the usefulness of the members of the Double Duty Finger Guild.

There were a number who had become masters at coil winding and they all could wind all of the thirty-odd types of coils used in the Crocker - Wheeler factory. All of the better workmen among them, and in this the women are included, wanted to progress and were ambitious to be taught other branches of electrical manufacturing.

A thorough inspection of the factory was made and it was decided to put a number at work at other tasks. To-day there are about a score who have been graduated from coil winding and are doing other things that require longer training and more careful handling. Among this work is weighing and assembling rotor cores; assembling and riveting pole shoes; sorting rotor punchings and taping field coils.

One of the most progressive workers was formerly a carpenter—that is, before he lost his sight. He worked through the Guild and then said that he wanted to go back to his old work, that he wanted to take up cabinet making. This was arranged and now he does much work in the cabinet making line and is most active in the shipping department where he makes boxes and nails them up after they have been packed. He also assists in some of the packing and altogether makes himself most useful.

There are many interesting phases of the work of training the blind and inducting them into the electrical industry which have been solved in Ampere. The objection was originally raised that it would be dangerous for the blind to work in factories. This was met by making very trivial changes, such as placing a door convenient to their benches and the street, so that they could come and go without having to pass by moving machinery.

Another objection was that the blind

In the electrical industry the blind do work for which there is an unlimited demand.

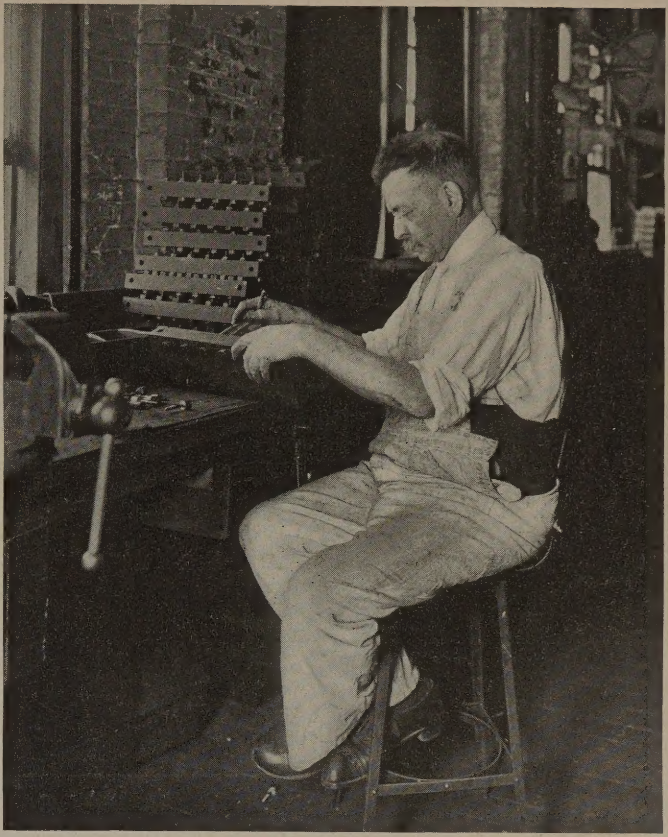
would not be able to come and go from work like the ordinary employee. This was soon found to have no foundation in fact. The blind workmen in Ampere keep hours as easily as the others. They arrive by trolley and sometimes by bus and train and have no trouble whatever in getting to and from their work. Part of this is due to the fact that everyone is kind to the blind and willing to lend them a helping hand, but it is more due to their extraordinary ability to take care of themselves. The loss of their eyes is made up in part by their "sixth sense," which is really a development of the bump of location. They seem to feel their surroundings in a way that is almost uncanny.

An interesting feature of the educational work done in France and England during last summer was the fact that one of the blind workers from Ampere, Walter E. Baker, was taken over there as instructor. He was an expert in coil winding and it took him only three days to teach some of the blinded French soldiers to wind coils and wind them well. When it became necessary to leave France he wished to remain there and the authorities asked that he be left as they wished to use him.

Recently Lieutenant Colonel Allen Greenwood, in charge of blinded American soldiers abroad, wrote to the authorities in France commending the work done by this graduate of the Double Duty Finger Guild. Colonel Greenwood had this to say:

"I take the occasion to thank you in behalf of the American soldiers blinded in the recent drive, for your most helpful contributions and coöperation. Mr. Baker, one of your instructors, himself blind and a teacher of rare ability, has been a Godsend to us in the present emergency. He is at present living with the blind soldiers in Base Hospital Number Eight, and the improvement in the mental attitude of the soldiers since his arrival has been most striking."

The fact that Baker is able to cheer the blinded American soldiers is in keeping with the spirit of the Guild. It has been often noted that no sooner does a blind person feel that he is able to earn his living in the electrical work than he becomes cheerful and recovers from the deathly lethargy so common among the sightless. The day he receives his first pay envelope marks an entire change in his viewpoint — it is as though he was reborn and began life anew.



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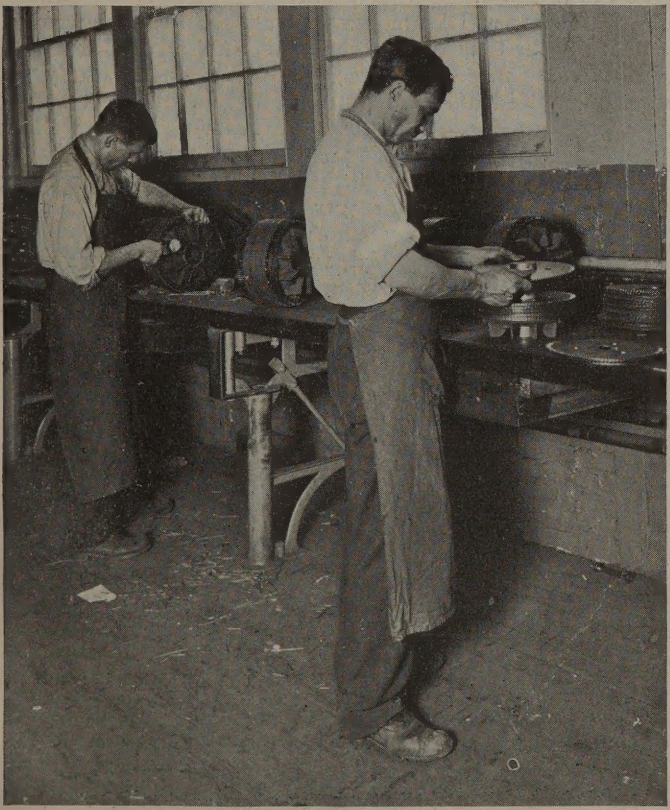


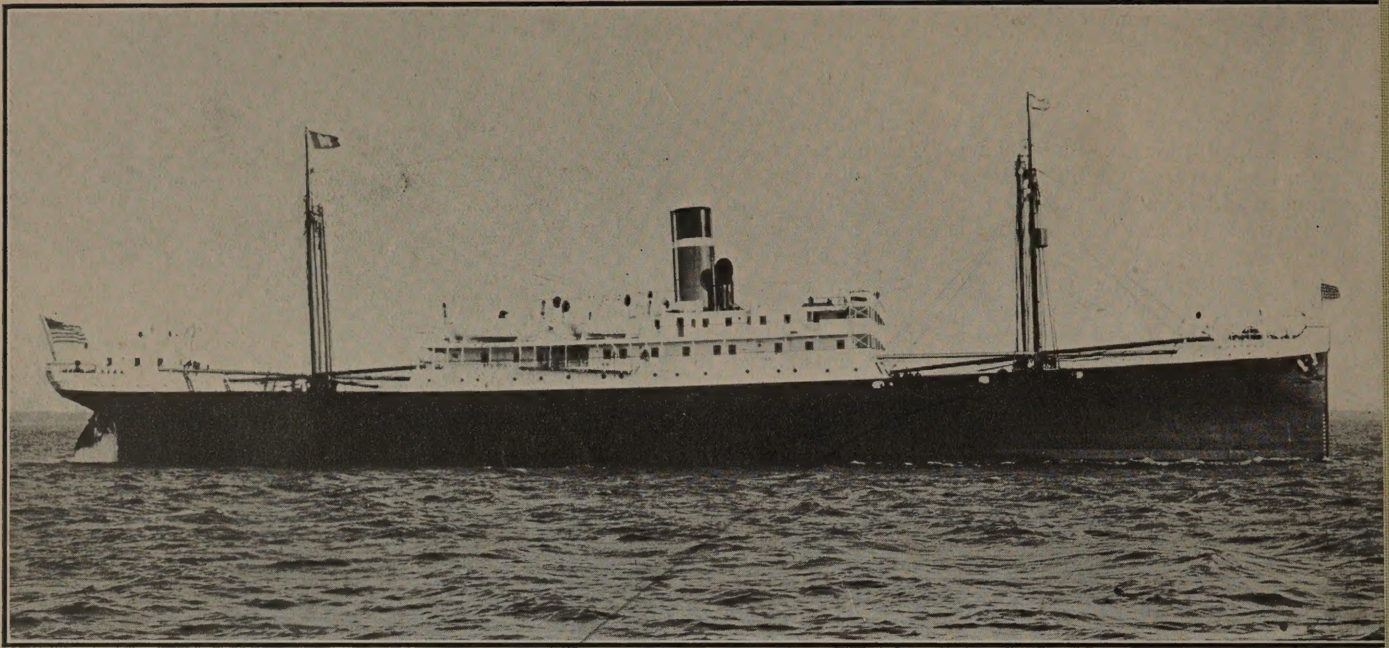
It has been proved in France that blinded soldiers make efficient factory employees.

In proving that the blind can do electrical work and become proficient workmen, many things have been learned. Probably the most important is the fact that not every blind person can make good at the work. Not every blind person is industrially fit and only such should be allowed to learn the work. The others, and it is to be regretted that they are in the majority, are not fitted for this work which, necessarily, must be done in factories and not at their homes.

In France, even the authorities charged with the care of the blind were against the idea of letting the blind work in factories and wanted them trained in home industries. However, with the coöperation of the French Thomson-Houston Company, it was proved that the blinded soldiers make efficient factory employees, just as had been found to be true over here.

Not all the graduates of the Double Duty Finger Guild are employed in the Crocker-Wheeler factory. A number, after being trained in the factory work, have gone into other industries. At present three men and two women are employed in the factory of the Consolidated Safety Pin Company in Bloomfield, N. J., where they stick pins on cards; one man is working on a twisting machine in the factory of the Western Electric Company in New York City; another man is helping strip automobile tires and is in charge of certain stock tables in the factory of the Combination Rubber Company at Bloomfield, N. J., and a third man is painting and polishing the limbs of dolls in the plant of the New Toy Company in Newark, N. J.

All of these are giving satisfaction under factory conditions, which seems to disprove the assertion that the blind cannot be used in factories. They prove that they can, and can make good, after they have been properly trained.



Our Consuls and Our New Ships

By U. S. CONSUL WESLEY FROST

(*Author of "German Submarine Warfare"*)

Mr. Frost, our readers will no doubt remember, was stationed at Queenstown during the war and cared for the survivors of many torpedoed ships, among them the Lusitania.—EDITOR.

IF OUR PROJECTED new merchant marine becomes a reality the American Consular Service will be deluged, engulfed and overwhelmed with work. To the question, "What do our Consuls do for our ships?" the best answer is the counter-question, "What do they not do?" The recent cartoons showing Mr. McAdoo going to work in the morning in six or seven different official rôles would serve perfectly to depict an American Consul setting out to fill his duties to an American ship. Toward the vessel, her owners, her officers, and her crew he combines the functions of cargo-finder, policeman, lawyer, judge, financial adviser, labor mediator, Y. M. C. A. secretary, next friend, and general trouble-fixer.

Before going into details about these functions, however, I want to pay my respects in a word or two to the very big "If" with which we just started. "Can our flag really return to the seas?" we are asked. Through all the publicity of our new ships there runs a strong undercurrent of skepticism. We are told that American standards of living prevent the payment of profit-permitting wages on American ships; and that the time is not ripe for upstanding American labor to compete on the sea with the necessity-driven hordes of Scandinavian, British and Oriental seamen.

My answer is that this pessimism is only half justified. The difficulties are grave but not insuperable. The flag will return because it *must* return. The time has come when American business must have its own delivery system, instead of hiring ocean delivery-wagons, as Mr. Hurley puts it. Our common carriers must not quit abruptly when they touch the sea.

We have learned from the war that our nation cannot be in a healthy condition, or even a safe condition, internationally, either from the economic or from the political standpoint, without an abundance of ocean-going vessels; and who is there who can believe that once America has awakened to so vital a problem she will lack the resourcefulness or resolution to meet it efficiently? Never forget that Mr. Hurley has gone to Europe with the avowed intention of arranging *an international wage-scale for seamen!* That is one of the most portentous attempts, if all its bearings are noted, that the entire war has brought forth.

So much for the "If." Now for the Consuls' duties.

The most important and the most difficult duty of the Service to our merchant fleets is that of cargo-finding or, in other words, trade-promoting. The Consuls have always been, and from the very nature of things always must be, the chief reliance of our manufacturers in their efforts to extend American commerce. Experts of the Tariff Commission may prepare reciprocity agreements, and technical experts of the Department of Commerce may travel to study particular trades, but for the vast bulk of the incessant intimate daily work of keeping American firms in touch with foreign firms all over the world the Consular Service will always be the mainstay of the American business world. Special agents and attachés may come and go in foreign countries, but the Consuls remain, year in and year out, settled into the various business communities and in constant contact on practical business matters with all the important firms in their districts. They command a personal acquaintance and win a permanency of confidence which no other official can hope to gain. In the long run, therefore, they have been proving themselves to be the heavy infantry, the actual front-trench fighters, of our Government's trade forces.

Run over for a moment the great forward steps in our progress as an exporting nation, and you will realize that every one of them has been due to the intelligence and energy of our Consuls. Who educated our manufacturers into good packing for export shipments? Whose insistence brought about the establishment of American branch banks abroad? Who developed our present

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